EPA Region 5 Records Ctr.
357076

Lindsay Light Team,

I asked Argonne to look again at the "rock" sample data from DuSable Park. There has been some question about the actual presence of europium and the concentration of potassium-40.

The previous concentrations were

Radium-226	120 pCi/g
Radium-228	10,300
Potassium-40	1340
Europium-155	440
Thorium-228	7350

The new concentrations are

Radium-226	87
Radium-228	9300
Potassium-40	190

Presumably, thorium-228 will be in equilibrium with radium-228 at 9300 pCi/g. Europium has been removed from the list of identified radionuclides.

Argonne's comments on their data sheet were that the potassium-40 was high because there was interference from actinium-228, a radionuclide in the thorium series. The europium-155 also appeared because of intereference from thorium radionuclides. Once the data was re-evaluated in light of these interferences, the concentrations were recalculated and are those in the second set above.

Larry Jensen

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Argonne, IL 60439

Revised: 03/11/02

REPORT OF ANALYTICAL RESULTS

Sample Material: Lindsay Light II, U.S. EPA
Submitted by: Larry Jensen, U.S. EPA

Date Received: 12/18/00
Date Reported: 3/12/02

Gamma-emitting Radionuclides

Reporting Unit: pCi/g at Collection Date

ACL Sample No.	01-8046-01									
Submitter's Sample No.	DuSable Park Rock EPA									
Radionuclide	pCi/g	± 1σ								
Ra-226	8.7E+01	6E+00								
Ra-228	9.3E+03	8E+02								
K-40	1.9E+02	1E+01								

Reason for Revision:

Spectrum was re-examined at request of customer to confirm high level of K-40 reported previously (12-21-00). This further examination revealed that there was an interference at the single line for K-40 due to the high levels of Ac-228 . The K-40 result was corrected for this interference. The Eu-155 previously reported was also actually attributable to x-ray lines from the Th.

NOTE: Unused sample material will be returned to the Client. Prepared samples will be discarded one (1) month after the date of this report unless other arrangements are made. When making future inquiries regarding this report, please reference the ACL sample number(s) above. For further information about the results reported here, please call:
E. Streets at 2-4460.

Reference(s): CMT Logbook No. 1591, pg. 130;CMT Logbook # 1779, Det. 2, 4, 7, 11, pg. 3

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03/12/02

Analyst(s): F. Markun
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3-12-03